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ABSTRACT

To investigate the effects of recency and specific story content on the development of moral reasoning, 16 stories were read to children at ages 4, 7, and 11 years and to college freshmen (a total of 24 participants per age level). Stories contained either positive or negative intention and either positive or negative consequences in one of four situations: rule breaking, property damage, property damage with peer interaction, or injury to a person. At each age level, half of the subjects heard stories with the intention first and the consequence second, and half heard them in the reverse order. Analyses confirmed that, in general, younger children judged on consequence, whereas older children utilized intention. However, 4- and 7-year-olds were influenced by whether intention or consequence occurred at the end of the story. In addition, on stories containing intentional injury to a person, the younger children took intention into account and made judgments similar to those of the older age groups. The demonstration of recency effects and selected intention-based judgments in young children suggests that the traditional Piagetian view of the development of moral reasoning is an oversimplified one. (Author/MP)

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The Effects of Recency and Story Content On Children's Moral Judgments

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Running head: Moral Judgments and Recency

July, 1982

Abstract

Sixteen stories were read to children at ages 4, 7, and 11 years and to college freshman (n = 24 per age level) to investigate the effects of recency and specific story content on the development of moral reasoning. The stories consisted of either positive or negative intention and either positive or negative consequence in one of four situations: rulebreaking, property damage, property damage with peer interaction, or injury to a person. At each age level, half of the subjects heard the stories with the intention first and the consequence second, and half heard them in the reverse order. Analyses confirmed that in general younger children judged on consequence, whereas older children utilized intention, $p < .001$. However, 4- and 7-year-olds were influenced by whether intention or consequence occurred at the end of the story, $p < .01$. In addition, on stories containing intentional injury to a person, the younger children took intention into account, $p < .05$, and made judgments similar to the older age groups. The demonstration of recency effects and selected intention-based judgments in young children suggests that the traditional Piagetian view of the development of moral reasoning is an oversimplified one.

The Effects of Recency and Story Content

Children's Moral Judgments

Research on the moral reasoning of young children has been guided by the model of Jean Piaget (1932) which suggests that a transition from consequence- to intention-based judgments occurs at about seven years of age. Although Piaget's model has been generally accepted for years, recent research has shown it to be overly simplistic. For example, although the young child is said to make consequence-based judgments, there is evidence that under certain circumstances young children can and do make judgments on the basis of intention (Berg-Cross, 1975; Berndt & Berndt, 1975; Farnill, 1974; Imamoglu, 1975; Rule, Nesdale, & McAra, 1974; Peterson, Peterson, & Finley, 1974).

Salience of specific cues appears to be one important determinant of children's moral judgments. Costanzo, Coie, Grumet and Farnill (1973) suggested that given parents' reactions to events, it should not be surprising that the consequence of an act is highly salient to a young child. By the same token, cognitive and social factors in the child's life may also increase the saliency of intention. Recency is one factor that might increase saliency. In the typical moral judgment story the consequence of the act is also the most recent information received by the child. Some researchers (Austin, Ruble, & Trabasso, 1977; Feldman, Klossen, Parsons, Rholes, & Ruble, 1976; Nummedal & Bass, 1976) have shown that recency may play a part in the judgments of 5-year-olds but less so in the judgments of older children having more advanced cognitive ability.

Thus, it is not clear whether a young child is responding to consequence or to recency aspects of the typical moral judgment story, since both factors are usually confounded in story presentation. Social factors such as interaction among peers, could also increase the saliency of story details. Elkind and Dabek (1977) found that kindergarten children showed more intention-based judgments when stories involved injury to another person than when stories were of the more traditional type involving property damage.

The use of intention in judgments by young children does not appear to be an all-or-none phenomenon but rather develops in small increments according to the "horizontal decalage" notion of Piaget. Young children's moral judgments may be affected by centration or decentration (Stuart, 1967) such that the most salient aspect of a story will depend upon the specific story content and the format in which the story is presented. This study examined the effects of recency and story content among 4-, 7-, 11-, and 19-year-olds. It was expected that at the younger age levels, children would be susceptible to recency effects and would make more intention-based judgments in stories involving intended personal injury.

Method

Subjects

The sample was comprised of 12 males and 12 females at each of four age levels (ages, 4, 7, 11, and 19 years). The 4-year-olds (mean age = 55.4 months) were selected from a university laboratory school. The 7- and 11-year-olds

(mean ages = 92.3 and 140.5 months respectively) were in the first and fourth grades of public school. The oldest group consisted of college students (mean age = 19.3 years) at a large university, who were fulfilling a psychology course requirement by participating in this experiment. At all ages the subjects were selected from predominently white, middle-class groups.

Instruments

Story format. The moral judgment stories used in this study were adaptations of the traditional Piagetian stories. This format has been used by several other researchers (e.g., Costanzo, et al., 1973). There was a total of 16 stories, eight with negative intention and positive consequence and eight with positive intention and negative consequence. The content of the 16 stories included four stories in each of four categories: injury to peer, peer interaction, property damage and rulebreaking. Within each specific category two stories were used in an effort to control for individual story effects.

Stories. The 16 stories, grouped by category, are presented below:

I. Positive intention/negative consequence: Injury to peer

1. Dave was playing ball and his ball rolled away from him. Kevin wanted to help Dave, so he threw the ball back to him. But when Kevin threw the ball back, it hit Dave in the head and hurt him.

2. Jill and Nancy were playing together. Jill was helping Nancy on the swing by giving her a push. But one time Jill pushed too hard and Nancy fell off the swing and skinned her knee.

II. Positive intention/negative consequence: Property damage with peer interaction

3. Pam and Betty were fixing themselves drinks. Betty was helping pour the drink into Pam's glass but Betty knocked the glass over and it broke.

4. Leon was visiting Jerry. Jerry thought Leon would like to play with his new toy. So Jerry brought the toy to Leon. But as Jerry was handing the toy to Leon, Jerry dropped it and broke the toy.

III. Positive Intention/negative consequence: Property damage

5. Chris wanted to surprise her mother by having her hands washed for dinner before being told to. But as she was reaching for the soap, Chris tipped over a new bottle of her mother's perfume and spilled it.

6. Terry was watching his father paint a picture. When his father left the room, Terry decided to help him get it done. As he was painting, Terry's hand slipped and smeared the picture.

IV. Positive intention/negative consequence: Property damage with rulebreaking

7. John's dad told him not to go outside in the rain with his new shoes. John did go out to help his mommy bring in the groceries but stepped in a puddle and got his new shoes all muddy.

8. Although Sally's mother told her not to use the sewing machine, Sally wanted to surprise her mommy and fix a rip in her mommy's dress. But while she was using the sewing machine, Sally broke the needle on the machine.

V. Negative intention/positive consequence: Injury to peer

9. Mary and Sue were walking down the sidewalk. Mary tried pushing Sue into a mud puddle. But when she pushed her, Mary pushed Sue out of the way of a bicycle coming down the sidewalk.

10. Robby saw Fred bending over at the edge of a pond. He thought it would be funny to hit him with the big rubber ball he had. When he threw it, Robby missed Fred and hit a bee near him. The ball scared the bee away.

VI. Negative intention/positive consequence: Property damage with peer interaction

11. Carla wanted to get Angela in trouble, so one day she grabbed a bunch of papers off the teacher's desk and put them in the trash basket. When the teacher asked "Who did it?", Carla said "Angela." The teacher said "Thank you Angela, I was just about to throw out those papers myself."

12. Frank was mad at Steve and pulled all the sheets and covers off Steve's bed. A few minutes later Steve's mother came into Steve's room and said, "Thank you, Steve, for pulling off your sheets. I needed to wash them today."

VII. Negative intention/positive consequence: Property damage

13. Mike was playing in his room. He was feeling mad and decided to mess up his toys and so he emptied the toy box onto the floor. His mother came in and said "I was just going to clean out the toy box and now you have the job half finished. Thank you, Mike."

14. Celeste was hiding from her mother because she didn't want to go home for dinner. She ran to an empty house next door and found a mother cat and her kittens that were trapped in the house.

VIII. Negative intention/positive consequence: Property damage with rulebreaking

15. Jane was always told to come straight home from school. But today she decided to go to the store. When she was there Jane found her mommy's purse that her mommy had lost the day before.

16. It was starting to rain one day and Roy's mother told him to stay inside. He went out anyway. When he went out, he found the windows of the car were down and rolled them up.

Story reversal. At each age level to assess the effects of recency, half of the subjects were read the 16 stories in the traditional manner with the intention stated first and the consequence second, and half heard them with the intention second and the consequence first. The following is an example of the story reversal for first story listed above:

> Dave was playing ball and his ball rolled away from him. Kevin threw the ball back but hit Dave in the head and hurt him. Kevin was trying to help Dave by throwing the ball back to him.

Pictures. To aid the child in remembering the content of the story, each story was accompanied by a black and white two-frame line drawing.

Each frame contained a 14-cm x 21-cm drawing depicting the story action. As an example, a reduced copy of the drawings for story 1 is shown in Figure 1.

Insert Figure 1 about here

Response scale. Children were asked to rate the story character as to goodness or badness on an 8-point rating scale. To help the youngest children with the ratings, a large bar graph was used to provide a visual depiction of degrees of goodness and badness. A rating of "1" indicated very bad and "8" indicated very good. Both sides of the graph consisted of four vertical rectangles which were 1.5-cm, 4-cm, 8.5-cm, and 13.5-cm in height and 3-cm in width.

Procedure

Each subject participated individually for approximately 20 minutes. Prior to the presentation of the first story, children were familiarized with the rating scale. The researcher proceeded with the stories only after the child or adult appeared to comprehend the rating scale.

The subject heard the 16 stories in one of six random orders. Each story was read twice to each subject and accompanied by the two-frame cartoon-like drawing depicting the action. Following the second reading, the child was asked "Was Kevin (or whatever the character's name) good or bad?" After the subject responded, the examiner asked "Why do you think so?" If the subject needed to hear the story again, the story was repeated. The subject was then asked to indicate on the scale how good (or bad) the character in the story was.

In this procedure the examiner presented the child only that half of the bar-graph appropriate to the subject's response to the initial question. Thus, a child who had initially evaluated the person in the story as "good,", now had to choose one of four levels of goodness.

Design

The final design of the study was a 4 x 2 x 2 x 2 x 4 mixed factorial with repeated measures. Age (4, 7, 11 and 19 years), Subject Sex/Gender and Recency (traditional or reversed order) were between-subject variables. Intention valence (negative intention/positive consequence and positive intention/negative consequence) and Stoy content (injury to peer, peer interaction, property damage, and rulebreaking) were within-subject variables. Half of the subjects in each condition were tested by a female examiner and half by a male examiner.

Results

Preliminary analyses were conducted to examine the comparability of the stories within categories. Analysis of variance based on all 16 stories within a category did not differ significantly for seven of the eight categories. In Category III (positive intention/negative consequence with property damage), Tukey comparisons showed that the character in story 6 was rated more negatively than the character in story 5, q (1320) = 7.50, $p < .01$. The result occurred more with the two older than the two younger age groups. Correlational analysis of the story pairs revealed that the ratings of all within-category pairs were significantly and positively correlated. Story sets in all four

story contexts with positive intention and negative consequence yielded correlations ranging from r = .42 to r = .67, $p < .001$ for all. In the negative intention stories, the story sets involving peer interaction and property damage also reached this level of significance (r = .45 and r = .39, respectively). The rulebreaking stories and stories involving intended damage to peers showed slightly lower but still significant correlations (r = .27, $p < .03$ and r = .29, $p < .01$, respectively). Based on these analyses, ratings from the two stories within a category were combined to form a single score for the purpose of subsequent analyses. Some caution should be exercised, however, in interpreting the findings for the positive intention and negative consequence stories with property damage, given the difference in ratings obtained on stories 5 and 6.

Additional analyses of variance also revealed no significant main effects or interactions involving sex or gender of subject or examiner, or of story presentation order. As a result, these variables were not included in subsequent analyses.

The principal data analyses were designed to assess the three major issues in the study: The use of intention as a function of age, the effect of story content, and the effect of recency. The data appear to support the hypotheses that younger children give ratings consistent with consequence-based judgments; that they make greater use of intention in stories involving intended personal injury; and that they are susceptible to recency effects. Table 1 presents the mean story character ratings as a function of age, story content, and recency.

Insert Table 1 about here

Age effects. A repeated measures analysis of variance revealed the existence of a significant main effect for Age, F (3, 88) = 12.97, $p < .001$[1] as well as a significant Age x Intention valence interaction F (3, 88) = 4.64, $p < .005$, and an Age x Intention valence x Story content interaction, F (9, 264) = 3.92, $p < .001$. (See Table 2 for complete list of significant ANOVA findings).

Insert Table 2 about here

The main effect for Age resulted from the finding that as age increased the ratings of the story actors became more positive. The means for the four age levels in order of ascending age were 3.12, 3.80, 4.11 and 4.40.[2] Tukey comparisons showed that the ratings of the 4-year-olds were significantly more negative than the ratings of the 7-year-olds, q (88) = 4.22, $p < .05$, the 11-year-olds, q (88) = 6.49, $p < .01$, and the 19-year-olds, q (88) = 6.75, $p < .01$.

The two younger groups tended to make judgments more in terms of the consequence whereas the two older groups apparently based judgments more on intention. In the two younger groups the ratings for the actors in negative intention/positive consequence stories were more positive than in the positive intention/negative consequence stories ($\bar{X}$ = 3.65 vs. 2.61, q (264) = 5.33, $p < .01$; and 4.49 vs. 3.06, q (264) = 7.64, $p < .01$, for the 4- and 7-year-olds respectively). The older children, however, rated the characters in the negative intention/positive consequence stories more negatively than those in the positive

intention/negative consequence stories ($\bar{X}$ = 3.16 vs. 5.03, q (264) = 9.56, $p < .01$; and 3.23 vs. 5.55, q (264) = 11.90, $p < .01$, for the 11- and 19-year-olds respectively). Tukey comparisons showed that on the negative intention/positive consequence stories the 7-year-olds rated the actors more positively than did the 4-year-olds, q (264) = 4.36, $p < .05$; 11-year-olds, q (264) = 6.68, $p < .01$, or college students, q (264) = 6.39, $p < .01$. On the positive intention/negative consequence stories the ratings of both younger groups were significantly more negative than those of the two older age groups (4- vs. 11-year-olds, q (264) = 11.85, $p < .01$; 4- vs. 19-year-olds, q (264) = 14.37, $p < .01$; 7- vs. 11-year-olds, q (264) = 9.68, $p < .01$; and 7- vs. 19-year-olds, q (264) = 12.20, $p < .01$). A graphic depiction of the mean story character ratings for each age in stories with the traditional order is shown in Figure 2.

Insert Figure 2 about here

Intention valence and Story content effects. As may be seen in Table 2 the analysis of variance yielded significant main effects for Intention valence and Story content and significant interactions for Story content x Intention valence, Story content x Intention valence x Age and Story content x Intention valence x Recency.

Overall, characters in the negative intention stories were rated more negatively than characters in the positive intention stories ($\bar{X}$ = 3.65 and 4.07 respectively) and characters in the stories which involved property

damage with peer interaction ($\bar{X}$ = 4.17) were rated more positively than characters in the stories involving peer injury ($\bar{X}$ = 3.60, q (264) = 6.14, $p < .01$). Analysis of the interaction between intention valence and story content revealed that in the negative intention/positive consequence stories, characters in rulebreaking stories were rated more positive ($\bar{X}$ = 4.36) than in any of the other three settings ($\bar{X}$ = 3.54, q (264) = 6.56, $p < .01$; $\bar{X}$ = 3.00, q (264) = 10.88, $p < .01$; and $\bar{X}$ = 3.70, q (264) = 5.28, $p < .01$, for comparisons with peer interaction, peer injury and property damage stories). In addition, the actors in peer injury stories were rated significantly more negatively than actors in the other three settings (q (264) = 6.56, $p < .01$, q (264) = 4.32, $p < .05$, q (264) = 5.60, $p < .01$, for comparisons with the rulebreaking, peer interaction, and property damage stories). In the positive intention/negative consequence stories, however, a different pattern emerged. Actors in stories with property damage and peer interaction ($\bar{X}$ = 4.80) were rated more favorably than those in stories with peer injury ($\bar{X}$ = 4.20), property damage stories ($\bar{X}$ = 3.96), or rulebreaking ($\bar{X}$ = 3.30). The ratings in the peer interaction with property damage stories were significantly more positive than those involving peer injury, q (264) = 4.76, $p < .01$, property damage alone, q (264) = 6.68, $p < .01$, or rulebreaking, q (264) = 11.92, $p < .01$. The rulebreaking actors were also rated significantly lower than those in stories with peer injury q (264) = 7.16, $p < .01$, or property damage q (264) = 5.24, $p < .01$.

In the property damage stories without peer interactions, actors of positive and negative intention were rated similarly ($\bar{X}$ = 3.96 vs. 3.70). Actors of positive intention were rated more positively than actors of negative

intention in stories with property damage and peer interaction, q (264) = 10.91, $p < .01$, or with peer injury, q (264) = 10.43, $p < .01$. In the case of rule-breaking, however, actors in negative intention/positive consequence stories received more positive ratings than actors in the positive intention/negative consequence stories, q (264) = 9.17, $p < .01$. This latter case involves a situation in which two "negative" events occur: the breaking of rules and the consequence.

The major finding regarding story content was that for both 4- and 7-year-olds, using the traditional format of presenting intent prior to consequence, actors in stories involving intended physical injury were given significantly more negative ratings than actors in other negative intention stories involving rulebreaking, (q (264) = 4.70, $p < .01$ and q (264) = 5.00, $p < .01$, property damage, q (264) = 2.85, n.s. and q (264) = 4.91, $p < .01$, and property damage with peer interaction, q (264) = 5.29, $p < .01$, and q (264) = 5.00, $p < .01$, for 4- and 7-year-olds respectively). This trend is reflected in the means presented in Table 1. Thus, for young children, stories with intended physical injury to peers yielded ratings more consistent with intention-based judgments than did the other negative intention/positive consequence story contents.

Recency effects. The main effect for Recency in the analysis of variance was not significant but Recency was found to interact with Intention valence, Intention valence and Story content, and Intention valence and Age (See Table 2).

Reversing the story order affected the ratings of the characters in the stories. The physical injury to person stories with either negative or positive intention did not show recency effects but all other story contexts were significantly influenced by recency.

It was only at the younger age levels that significant recency effects were obtained. At seven years of age, stories of both negative intention/positive consequence, q (264) = 4.88, $p < .01$, and positive intention/negative consequence, q (264) = 4.13, $p < .01$ yielded recency effects. Four-year-olds also showed recency effects in the negative intention/positive consequence stories, q (264) = 5.83, $p < .01$, but not in the positive intention/negative consequence stories. In this latter case, the effect of recency was not sufficient to significantly override the negative consequence. Recency effects in the two younger age groups are shown in Figure 3. No recency effects were found in the two older age groups.

Insert Figure 3 about here

Discussion

The data supported the hypotheses that younger children would be more influenced by consequences and older children by intention; that younger children would exhibit recency effects in making moral judgments and that younger children would make intention-based judgments in stories involving intended personal injury.

Recency had a consistent effect on the judgments of 7-year-olds across both positive intention and negative intention contexts. In every

story setting, the children who heard the positive characteristic last rated the character more positively than did children for whom the positive characteristic was the first story component. These children also rated the character more negatively if the negative aspect of the story came at the end.

Four-year-olds did not demonstrate such uniform effects, however. Stories with negative intention and positive consequence showed recency effects, but stories of positive intent and negative consequence did not. In this latter case, ratings were basically unchanged as a function of order of presentation. This present finding is consistent with results reported by Costanzo et al. (1973), who found that kindergartners were affected by intent information in the presence of positive outcome information but not with negative outcome information. The saliency of negative consequences appears to override recency effects for 4-year-olds. This suggests that preschool children may respond primarily to the negative aspect of the story, whether intention or consequence. In the traditional negative intention/positive consequence stories, however, positive recency effects do produce more positive judgments. By age 7, judgments are uniformly affected by recency to some extent.

The data also suggest that under certain circumstances young children can make judgments based on intention. Intention-based judgments were clearest within the context of intended personal injury. Certainly to preschoolers and first graders interaction with peers is a critical feature of the child's environment which may increase the saliency of peer intentions within the

moral judgment story. This pattern of development may parallel Bell's (1970) findings which suggest that person permanence precedes the acquisition of object permanence in children with healthy attachment relationships. In both cases, the developmental process may be responding to environmental factors which emphasize the salience of a particular context.

These findings suggest that Piaget's theoretical account of moral reasoning is in need of some future refinement. The present results do not necesarily imply that the Piagetian view is incorrect but rather that it is not complete. Piagetian concepts such as centration (related to saliency) and horizontal decalage may provide the mechanisms for such a framework.

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Footnotes

[1]All probability values refer to the values obtained via analyses which assume equality and symmetry of the variance-covariance matrices. The Geisser-Greenhouse Conservative *F* ratio procedure was used and indicated that all reported statistics were significant at the .05 level.

[2]Although statistical analyses were based on the combined score (sum) of the two stories within a category, the means presented in Table 1 and in the text are averaged across stories so as to reflect the 8-point rating scale used by the subjects on each story.

Table 1

Mean Story Character Ratings as a Function of Age, Story Content and Recency

Intention:	Negative				Positive			
Consequence:	Positive				Negative			
Context: / Group (N = 12 per cell)	Injury to Peers	Peer Interaction	Property Damage	Rule-breaking	Injury to Peers	Peer Interaction	Property Damage	Rule-breaking
4-year-olds								
Standard order	3.12	5.38	4.33	5.13	2.58	2.54	2.62	1.91
Reversed order	2.96	2.45	2.38	3.42	2.75	3.50	2.33	2.63
7-year-olds								
Standard order	3.63	5.79	5.75	5.79	2.75	2.79	2.66	2.12
Reversed order	3.04	4.45	3.46	4.37	3.29	4.29	4.08	2.96
11-year-olds								
Standard order	2.58	2.96	3.41	3.95	5.63	5.50	4.33	3.67
Reversed order	3.04	2.50	3.04	3.92	5.33	6.46	5.04	4.33
19-year-olds								
Standard order	3.00	2.37	3.75	3.75	5.96	6.58	5.21	4.25
Reversed order	2.58	2.41	3.46	4.54	5.79	6.71	5.38	4.58

Table 2

Significant F Values from ANOVA with

Repeated Measures (4x2x2x4 design)

Variable	df	F	p	Conservative p[a]
Age	3, 88	12.97	.001	.001
Intent	1, 88	9.00	.005	.005
Age x Intent	3, 88	49.76	.0001	.0001
Order x Intent	1, 88	23.65	.0001	.0001
Age x Order x Intent	3, 88	4.64	.005	.005
Content	3, 264	6.53	.001	.05
Age x Content	9, 264	1.96	.05	n.s.
Intent x Content	3, 264	38.12	.0001	.01
Age x Intent x Content	9, 264	3.92	.001	.05
Order x Intent x Content	3, 88	12.97	.001	.001

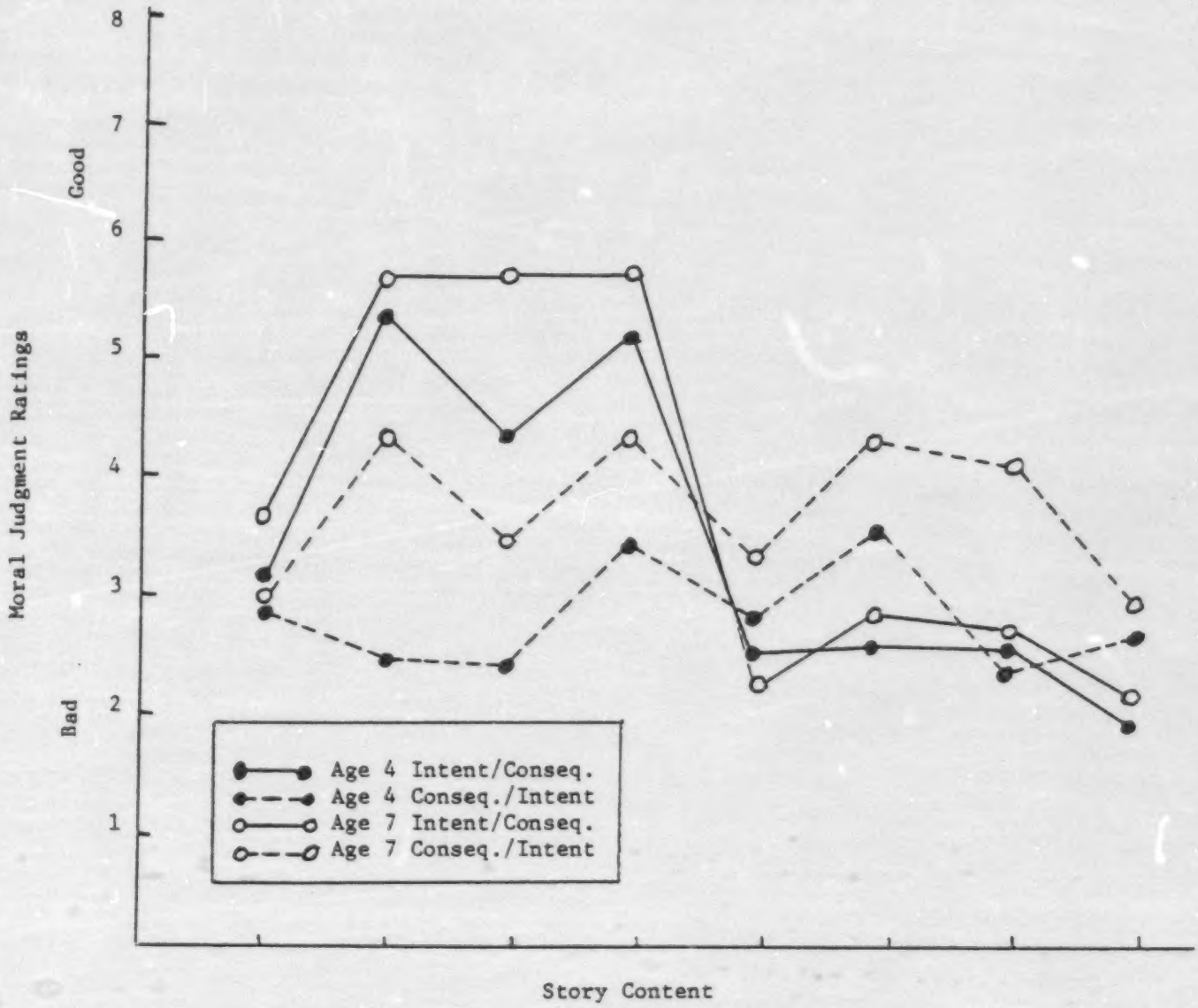
[a]Obtained via Geisser-Greenhouse procedure.

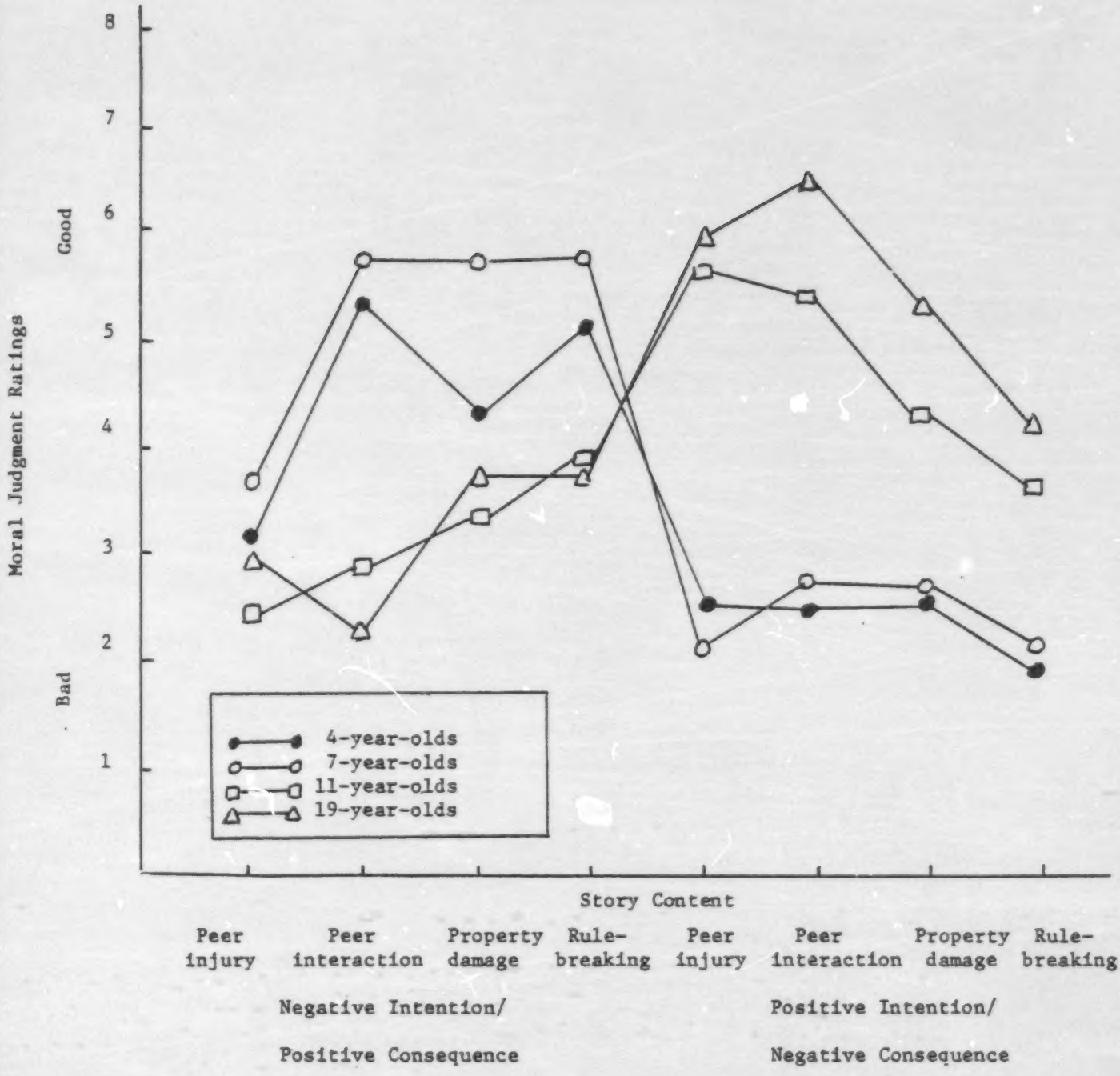
Figure Captions

Figure 1. Example of the drawings that were used in conjunction with the stories. This set of pictures depicts the action in story 1.

Figure 2. Mean character ratings stories of the traditional format where intention is presented prior to consequence. The rating scale is depicted on the ordinate and intention valence with story content on the abscissa.

Figure 3. Mean character ratings of the 4- and 7-year-olds as a function of recency. The rating scale is depicted on the ordinate and intention valence with story content on the abscissa.


Moral Judgment Ratings
Good
Bad
8
7
6
5
4
3
2
1
Age 4 Intent/Conseq.
Age 4 Conseq./Intent
Age 7 Intent/Conseq.
Age 7 Conseq./Intent
Story Content
Peer injury
Peer interaction
Property damage
Rule-breaking
Peer injury
Peer interaction
Property damage
Rule-breaking
Negative Intention/ Positive Consequence
Positive Intention/ Negative Consequence


Moral Judgment Ratings
Good
Bad
8
7
6
5
4
3
2
1
4-year-olds
7-year-olds
11-year-olds
19-year-olds
Story Content
Peer injury
Peer interaction
Property damage
Rule-breaking
Peer injury
Peer interaction
Property damage
Rule-breaking
Negative Intention/ Positive Consequence
Positive Intention/ Negative Consequence